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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HYUN, PAUL SANG HWA

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/086,552

Applicant(s)

MACOMBER, ROBERT J.

Examiner

Paul S. Hyun

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/4/2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119.

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 and 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Marino (U.S. Patent 6,132,684).

In reference to claim 1, Marino discloses a test tube rack 100 comprising; three plates (102, 104 and 106) each having multiple machined holes 108, wherein the plates are configured to align one another (see FIG 2), and one of the plates 106 is capable of shifting in a horizontal direction with respect to the other plates to provide a means to secure the tubes placed therein (see claim 1). Even though the reference is silent towards storing filaments, the term "device for manipulating and dispensing multiple filaments" used by Applicant does not, by definition, infer any features that would distinguish an object as such. Since it appears that the Marino invention is fully capable of accommodating multiple filaments, it can function as a device for manipulating and dispensing multiple filaments.

In reference to the holding mechanism configured to orient and support the plates, the combination of legs 115, pins 120 and holes 190 in support 186 would be sufficient to "orient and support the at least three plates."

In reference to claim 2, the Marino invention is described as noted above, wherein the apparatus comprises multiple machined holes 108 configured to permit unrestricted passage of a plurality of filaments in a vertical direction.

In reference to claims 3-5, the invention as described in claim 2 is mentioned above, wherein the apparatus is fully capable of manipulating and dispensing capillary tubes, optical fibers and light guiding capillary tubing. Even though the reference is silent towards the contents being capillary tubes, optical fibers or light guiding capillary tubing, the term "device for manipulating and dispensing multiple filaments" used by Applicant in claim 1 does not, by definition, infer any features that would distinguish an object as such. Since it appears that the holes in the modified Marino invention are fully capable of accommodating capillary tubes, optical fibers, and light guiding capillary tubing, the Marino device can function as a device for manipulating and dispensing multiple capillary tubes, optical fibers and light guiding capillary tubing.

In reference to claim 10, Marino discloses a method for manipulating and dispensing filaments, comprising:

Loading a plurality of tubes in machined holes of a device having three plates (see (21) of Detailed Description);

Shifting one of the plates in a horizontal direction with respect to the other plates in order to secure the tubes placed therein (see (18) Summary of Invention); and

Manipulating the tubes using the device to permit contact with a sample of an analytical application, the sample being cells in the reference (see (22) of Detailed Description).

In reference to claim 11, a method for manipulating and dispensing filaments according to claim 10 is disclosed by Marino as mentioned above, and the Marino reference further describes analyzing the samples of the analytical application. The reference mentions analyzing the outcome of procedures such as DNA amplification that is conducted by placing sample tubes secured by the Marino apparatus onto a heating block (see (6) Background of Invention & (15) of Summary of Invention).

Furthermore, the Marino reference describes the method for unloading the plurality of tubes from the device. The reference describes an engaging member 180 that allows the tubes to move freely in the machined holes and subsequently be released when the engaging member is put in released mode (see (17) Summary of Invention).

In reference to claim 12, Marino discloses the method of claim 11 as mentioned above, and the Marino reference further discloses analyzing samples by transferring and dispensing the samples of an analytical application. The reference describes the ability of the invention to transfer test tubes that contain samples from one place to another, which is possible after setting the engaging member to the engaged mode (see (17) Summary of the Invention). Once the samples are transferred, they can be

dispensed from the plates by setting the engaging member in released mode as described in claim 11.

In reference to claim 13, the method of claim 11 is disclosed by Marino as mentioned above, and the Marino reference further discloses the step of unloading the plurality of tubes, which includes shifting one of the plate in a horizontal direction with respect to the other plates. The reference describes how the tubes can be unloaded from the device when the engaging member is set into the released mode, allowing the tubes to move freely in the machined holes (see (17) Summary of the invention).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marino in view of Gold (U.S. Patent 4,770,381).

In reference to claim 7, the device according to claim 1 is described by Marino as mentioned above, but the Marino reference lacks at least one tension device configured to actuate one of the plates into one of a locked and unlocked positions.

Gold discloses a holding mechanism, more specifically a test tube rack holder, that comprises a tension device in the form of wing nuts 54 that can actuate the test

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tube rack into locked and unlocked positions (see lines 7-10 in (4) Detailed Description). Furthermore, the device comprises side bars 50 that secure the rack into the device (see lines 3-7 of Abstract). It would have been obvious to one of ordinary skill in the art to incorporate the features of tension and security as described by the Gold reference into the holding mechanism of the Marino apparatus since the incorporation of the tensioning and security features would allow the Marino device to more effectively support and lock its plates.

In reference to claim 8, the modified Marino device as described in claim 7 is mentioned above, and furthermore, the wing nuts that act as a tension device disclosed in the Gold reference are adjustable (see lines 1-3 of (10) Detailed Description). It would have been obvious to one of ordinary skill in the art to make the wing nuts of the holding mechanism described in claim 7 adjustable since the adjustable wing nuts would allow the user to easily actuate the plates of the modified Marino device into locked and unlocked positions within the holding mechanism.

Claims 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marino in view of Wohlstadter et al. (U.S. Application US 2005/0,052,646 A1).

In reference to claim 6, the device of claim 1 is disclosed in the Marino reference as noted above, but the reference does not specify the design pattern of wells on the three plates.

However, the Wohlstadter et al. reference mentions that for reasons of convenience, the Society of Biomolecular Screening has standardized well plate arrangements on a variety of plate formats. Some established arrangements include 96 (8x12), 384 (16x24), and 1536 (32x48) well plate designs (see line 16-24 of [0006] of Background of Invention). It would have been obvious to one of ordinary skill in the art to incorporate the design pattern of wells on a plate (96, 384, 1536 wells) as mentioned in the Wohlstadter et al. reference to the plates of the Marino invention since the disclosed design patterns of wells would allow large number of filaments to be stored in the Marino device.

In reference to claim 9, the device of claim 1 is disclosed in the Marino reference as noted above, but the reference does not specify the presence of a chamfer on one of the plates.

However, the Wohlstadter et al. reference describes a well plate that includes chamfers 172 on the top plate (see FIG 2). It would have been obvious to one of ordinary skill in the art to machine a chamfer as mentioned in the Wohlstadter et al. reference to at least one surface of the Marino plates since a chamfer would facilitate the alignment and loading of the filaments into the apparatus.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marino in view of Bernstein (U.S. Patent 3,481,712). Marino discloses the method of claim 13

as mentioned above, but the reference does not mention unloading contents of the apparatus by disposing the tubes or cleaning them for re-use.

However, the Bernstein reference mentions the use of disposable test tubes as well as the process of cleaning reusable test tubes in conjunction with the use of a test tube rack (see line 50 column 4 and lines 64-65 column 1 of Abstract). It would have been obvious to one of ordinary skill in the art to use disposable test tubes or washable test tubes as disclosed by Bernstein with the Marino apparatus so that the user can conveniently unload the test tubes from the Marino device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul S. Hyun whose telephone number is (571)-272-8559. The examiner can normally be reached on Monday-Friday 8AM-4:30PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PSH

4/29/05


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